

**WHAT IS CLAIMED IS:**

1           1. A method of managing traffic for transport on an Asynchronous Transfer  
2 Mode (ATM) virtual path (VP), the method comprising:  
3           forming an AAL2 path group which comprises plural AAL2 paths;  
4           admitting connections based on available bandwidth of the AAL2 path group  
5 rather than available bandwidth of an individual AAL2 path;  
6           including, for transport on the virtual path (VP), ATM cells of a second type  
7 other than a first type of ATM cells which comprise the AAL2 path group.

1           2. The method of claim 1, wherein the first type of ATM cells comprises AAL2  
2 traffic cells and the second type of ATM cells comprises cells dedicated to at least one  
3 of signaling, operation and maintenance, and synchronization.

1           3. The method of claim 1, wherein the second type of ATM cells comprises  
2 cells which require a guaranteed bandwidth.

1           4. The method of claim 1, wherein the first type of ATM cells comprises AAL2  
2 cells and the second type of ATM cells comprises non-AAL2 cells.

1           5. The method of claim 1, wherein the first type of ATM cells comprises AAL2  
2 cells from AAL2 paths with differing QoS classes.

1           6. The method of claim 5, wherein the first type of ATM cells comprises AAL2  
2 cells having an unspecified bit rate (UBR) and the second type of ATM cells comprises  
3 AAL2 cells have a bit rate type other than UBR.

1           7. The method of claim 1, wherein a given one of the AAL2 paths carries  
2 AAL2 cells having a same Quality of Service (QoS) requirement.

1           8. The method of claim 1, further comprising allocating more delay-sensitive  
2 traffic to a different AAL2 path than less delay-sensitive traffic.

1           9. The method of claim 1, further comprising providing differing treatment for  
2 differing AAL2 connections within the AAL2 path group based on the QoS  
3 requirements for the differing AAL2 connections.

1           10. The method of claim 1, further comprising providing a greater weighting or  
2 priority for more delay sensitive AAL2 connections.

1           11. A node of an Asynchronous Transfer Mode (ATM) comprising:  
2 a plurality of AAL2 paths which together form an AAL2 path group wherein a  
3 connection being admitted to one of the AAL2 paths of the AAL2 path group is based  
4 on available bandwidth of the AAL2 path group rather than available bandwidth of an  
5 individual AAL2 path;

6 a path group scheduler which selects ATM AAL2 cells from the plurality of  
7 AAL2 paths;

8 a non-path group ATM virtual circuit (VC) which includes ATM cells of a  
9 second type other than the ATM cells of a first type which comprise the AAL2 path  
10 group;

11 a scheduler which applies ATM cells of the path group and the non-path group  
12 ATM virtual circuit (VC) to an ATM virtual path (VP) for transmission to another node  
13 of the network.

1           12. The apparatus of claim 11, further comprising a connection admission  
2 controller unit which admits connections based on available bandwidth of the AAL2  
3 path group rather than available bandwidth of an individual AAL2 path.

1           13. The apparatus of claim 11, wherein the first type of ATM cells comprises  
2 AAL2 traffic cells and the second type of ATM cells comprises cells dedicated to at  
3 least one of signaling, operation and maintenance, and synchronization.

1           14. The apparatus of claim 11, wherein the second type of ATM cells  
2 comprises cells which require a guaranteed bandwidth.

1           15. The apparatus of claim 11, wherein the first type of ATM cells comprises  
2 AAL2 cells and the second type of ATM cells comprises non-AAL2 cells.

1           16. The apparatus of claim 11, wherein the first type of ATM cells comprises  
2 AAL2 cells from AAL2 paths with differing QoS classes.

1           17. The apparatus of claim 15, wherein the first type of ATM cells comprises  
2 AAL2 cells having an unspecified bit rate (UBR) and the second type of ATM cells  
3 comprises AAL2 cells have a bit rate type other than UBR.

1           18. The apparatus of claim 11, wherein a given one of the AAL2 paths carries  
2 AAL2 cells having a same Quality of Service (QoS) requirement.

1           19. The apparatus of claim 11, further comprising allocating more delay-  
2 sensitive traffic to a different AAL2 path than less delay-sensitive traffic.

1           20. The apparatus of claim 11, wherein the path group scheduler is a weighted  
2 fair queuing scheduler.

1           21. The apparatus of claim 11, wherein the path group scheduler is a strict  
2 priority scheduler.

1           22. The apparatus of claim 11, further comprising means for providing  
2 differing treatment for differing AAL2 connections within the AAL2 path group based  
3 on the QoS requirements for the differing AAL2 connections.

1           23. The apparatus of claim 22, further comprising means for providing a greater  
2 weighting or priority for more delay sensitive AAL2 connections.

1           24. An Asynchronous Transfer Mode (ATM) network comprising:  
2 a first network node;  
3 a second network node;  
4 an ATM virtual path (VP) connecting the first network node and the second  
5 network node;  
6 wherein the first network node comprises:  
7 a plurality of AAL2 paths which together form an AAL2 path group  
8 wherein a connection being admitted to one of the AAL2 paths of the AAL2 path group

9 is based on available bandwidth of the AAL2 path group rather than available  
10 bandwidth of an individual AAL2 path;

11 a path group scheduler which selects ATM AAL2 cells from the plurality  
12 of AAL2 paths;

13 a non-path group ATM virtual circuit (VC) which contains ATM cells of  
14 a second type other than ATM cells of a first type which comprise the AAL2 path  
15 group;

16 a scheduler which applies ATM cells of the path group and the non-path  
17 group ATM virtual circuit (VC) to the ATM virtual path (VP) for transmission to the  
18 second network node.

1 25. The apparatus of claim 24, further comprising a connection admission  
2 controller unit which admits connections based on available bandwidth of the AAL2  
3 path group rather than available bandwidth of an individual AAL2 path.

1 26. The apparatus of claim 25, wherein the connection admission controller unit  
2 is situated at the first network node.

1 27. The apparatus of claim 25, wherein the connection admission controller unit  
2 is situated at the second network node.

1 28. The apparatus of claim 24, wherein the first type of ATM cells comprises  
2 AAL2 traffic cells and the second type of ATM cells comprises cells dedicated to at  
3 least one of signaling, operation and maintenance, and synchronization.

1 29. The apparatus of claim 24, wherein the second type of ATM cells  
2 comprises cells which require a guaranteed bandwidth.

1 30. The apparatus of claim 24, wherein the first type of ATM cells comprises  
2 AAL2 cells and the second type of ATM cells comprises non-AAL2 cells.

1 31. The apparatus of claim 24, wherein the first type of ATM cells comprises  
2 AAL2 cells having a first bit rate type and the second type of ATM cells comprises  
3 AAL2 cells having a second bit rate type.

1        32. The apparatus of claim 31, wherein the first type of ATM cells comprises  
2 AAL2 from AAL2 paths with differing QoS classes.

1        33. The apparatus of claim 24, wherein a given one of the AAL2 paths carries  
2 AAL2 cells having a same Quality of Service (QoS) requirement.

1        34. The apparatus of claim 24, further comprising allocating more delay-  
2 sensitive traffic to a different AAL2 path than less delay-sensitive traffic.

1        35. The apparatus of claim 24, wherein one of the first network node and the  
2 second network node is a base station node.

1        36. The apparatus of claim 24, wherein the one of the first network node and the  
2 second network node is a radio network controller node.

1        37. The apparatus of claim 24, wherein the path group scheduler is a weighted  
2 fair queuing scheduler.

1        38. The apparatus of claim 24, wherein the path group scheduler is a strict  
2 priority scheduler.

1        39. The apparatus of claim 24, further comprising means for providing  
2 differing treatment for differing AAL2 connections within the AAL2 path group based  
3 on the QoS requirements for the differing AAL2 connections.

1        40. The apparatus of claim 39, further comprising means for providing a greater  
2 weighting or priority for more delay sensitive AAL2 connections.

1        41. Apparatus for managing traffic for transport on an Asynchronous Transfer  
2 Mode (ATM) virtual path (VP), the method comprising:  
3        means for forming an AAL2 path group which comprises plural AAL2 paths;  
4        means for admitting connections based on available bandwidth of the AAL2  
5 path group rather than available bandwidth of an individual AAL2 path;  
6        means for including, for transport on the virtual path (VP), ATM cells of a  
7 second type other than a first type of ATM cells which comprise the AAL2 path group.

1           42. The apparatus of claim 41, wherein the first type of ATM cells comprises  
2 AAL2 traffic cells and the second type of ATM cells comprises cells dedicated to at  
3 least one of signaling, operation and maintenance, and synchronization.

1           43. The apparatus of claim 41, wherein the second type of ATM cells  
2 comprises cells which require a guaranteed bandwidth.

1           44. The apparatus of claim 41, wherein the first type of ATM cells comprises  
2 AAL2 cells and the second type of ATM cells comprises non-AAL2 cells.

1           45. The apparatus of claim 41, wherein the first type of ATM cells comprises  
2 AAL2 cells from AAL2 paths with differing QoS classes.

1           46. The apparatus of claim 45, wherein the first type of ATM cells comprises  
2 AAL2 cells having an unspecified bit rate (UBR) and the second type of ATM cells  
3 comprises AAL2 cells have a bit rate type other than UBR.

1           47. The apparatus of claim 41, wherein a given one of the AAL2 paths carries  
2 AAL2 cells having a same Quality of Service (QoS) requirement.

1           48. The apparatus of claim 41, further comprising allocating more delay-  
2 sensitive traffic to a different AAL2 path than less delay-sensitive traffic.

1           49. The apparatus of claim 41, further comprising means for providing  
2 differing treatment for differing AAL2 connections within the AAL2 path group based  
3 on the QoS requirements for the differing AAL2 connections.

1           50. The apparatus of claim 49, further comprising means for providing a greater  
2 weighting or priority for more delay sensitive AAL2 connections.